Datasheet: OneTouch™ AT Network Assistant

Network professionals spend 25 percent of their time troubleshooting—taking time away from critical tasks such as deploying new technologies, and optimizing network performance. With most problems requiring an hour or more to solve, end-user productivity also suffers. Based on a recent Fluke Networks study[1], 72% of enterprises operate without a standardized troubleshooting process, resulting in slow and inefficient network troubleshooting and project execution. But when enterprises standardize the troubleshooting process, technicians of various skill levels can solve more problems and be confident in the resolution.

The OneTouch™ AT Network Assistant *Reduces troubleshooting time by standardizing network troubleshooting:*

1. ***Unique AutoTest profiles for standardized troubleshooting and network validation scenarios.*** *Enabling fast, efficient testing for novice and expert technicians using pre-defined best practices, OneTouch AT identifies the most common end user issues in about a minute*
2. ***All-in-one integrated wired and Wi-Fi network discovery and analysis.*** *Manage Wi-Fi networks and devices, including BYOD, with advanced tools and in-depth discovery and analysis*
3. ***Remote management and capture for efficient collaboration.*** *Since 40 percent of problems span multiple organizations, the OneTouch AT enhances team collaboration through a simple web-remote interface and easy-to-use inline packet capture capabilities.*

By improving each step of the process, the OneTouch AT frees up nearly a week of time each month historically spent troubleshooting problems. The OneTouch AT helps network technicians solve more problems faster, escalate issues more efficiently and validate performance easily – making even the novice user an expert.

1. *Implementing Best Practices Troubleshooting for IT (Fluke Networks, 2013).*

An automated all-in-one tool for understanding end user Gigabit Ethernet and Wi-Fi network performance.

- **Combined copper, fiber and Wi-Fi troubleshooting** resolves a broad range of problems with one tool
- **Automated testing with pass/fail analysis** speeds identification of the most common problems in about a minute
- **Standardized network troubleshooting and performance validation** empowers technicians of various skill levels to solve more problems with confidence
- **A comprehensive client view of performance** isolates the problem root cause starting from the physical layer, through the network and to server-hosted applications
- **Wired and Wi-Fi discovery and analysis** provides visibility into connected devices, key device properties and problems
- **End-to-end path performance measurement** to a peer or a reflector; validates and documents link readiness and SLA compliance
- **Inline VoIP analysis** simplifies troubleshooting of desktop VoIP problems in real-time without taps or switch mirror ports
- **Wired and Wi-Fi packet capture** streamlines collaboration and escalation of the most complex issues
- **Versiv™ test platform** expands testing capabilities through the addition of new modules as testing needs evolve

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OneTouch AT features

Combined copper, fiber and Wi-Fi troubleshooting

The OneTouch AT incorporates two 10/100/1000 Mbps RJ-45 Ethernet test ports, two 100/1000 Mbps SFP fiber optic transceiver ports and an internal 802.11 a/b/g/n dual band radio. Simultaneously test your wired Ethernet and Wi-Fi networks (including 802.11ac) and easily compare performance with side-by-side test results.

Automated testing with pass/fail analysis

Test everything defined in a profile automatically with the one-touch AutoTest. Choose any network element cable, switch, access point, server, Wi-Fi channel; all are represented graphically in the profile on the OneTouch AT home page. As the AutoTest progresses from the physical layer, through the wired and wireless infrastructure, to network services and applications; clear pass/fail indicators appear next to the network element under test. A top-level pass/fail indicator provides the overall AutoTest status at a glance. Potential problems are flagged with yellow warning icons. Touch any icon for details.

Standardized network troubleshooting and validation

Use the intuitive touch interface to create test profiles, or test scripts, tailored to specific networks, services, and applications. Build profiles to accommodate different types of users, devices, locations or technologies. Profiles can be very simple with just a few tests or advanced with dozens of tests. Once created, profiles can be saved for quick and easy reuse later. Create a library of standardized profiles to elevate the troubleshooting know-how of the entire network support staff. Use the profiles to establish best practices for faster, more productive troubleshooting.

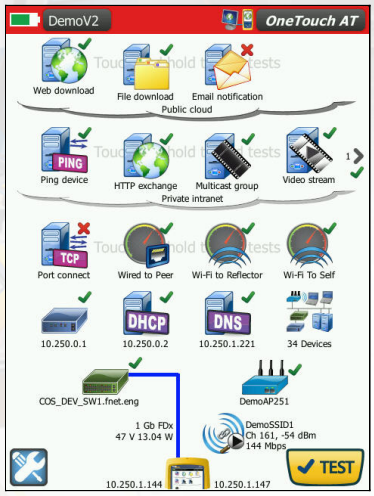

Figure 1. The AutoTest provides a comprehensive measurement of network performance from the end user point-of-view, from cable to services and applications

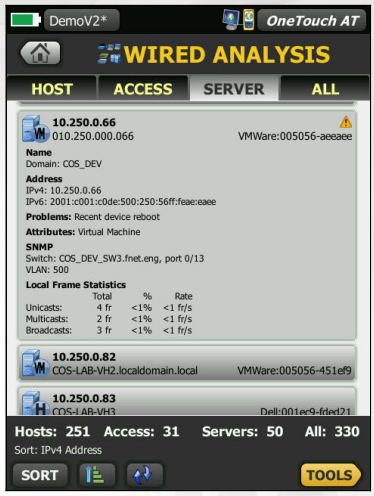

Figure 2. Analyze copper and fiber networks with automated device discovery, comprehensive sorts and deep-dive analysis tools.

A client view of performance

Most network trouble tickets start where a client device is connected to the network—where the device could be a PC, IP phone, printer, POS terminal, industrial equipment controller or a medical imager. The OneTouch assists in troubleshooting common issues—or proving that the network is not the cause—by emulating the client device and measuring network performance.

Performance measurement from the cable to the cloud

The cause of a network problem can be elusive. The OneTouch AT identifies problem root cause by measuring and analyzing the performance of the critical network components: the network cabling, the delivery of Power over Ethernet (PoE), the connection to the nearest switch, the connection to the nearest access point, and the performance of key network services and server-based applications.

Copper and fiber optic cable testing

Troubleshoot cable performance quickly by measuring twisted pair cable wiremap and length. Use cable identifiers and IntelliTone™ toning to locate and identify cables. Measure the optical power received through fiber optic links. Verify the cleanliness of fiber optic connections by viewing connector end faces with the optional FiberInspector™ USB video probe.

PoE testing

Verify the successful delivery of PoE with the TruePower™ load test. Measure PoE unloaded and under load. Emulate a 802.3at (PoE+) class 1-4 powered device and measure power up to 25.5 watts.

Wired and Wi-Fi client connectivity testing

Understand how a client connects to the wired infrastructure by testing link negotiation, identifying the nearest switch, port, and monitoring key switch port statistics. Also, gain an understanding of how a client connects to the Wi-Fi infrastructure by testing the link between the client and the nearest access point, identifying the AP name, channel and security, observing the authentication and association process, and monitoring key AP and network statistics, including roaming details by AP.

Network services testing

View a breakdown of the wired and Wi-Fi DHCP IP address acquisition process. Identify the DHCP servers and view the offer and acceptance timing and lease information. Test the performance of the DNS server.

Wired analysis

Automatically discover copper and fiber-connected devices and key device properties. Select from among thirteen different sorts to obtain different views into the wired network. For example, sort by IPv4 or IPv6 address to identify used and available addresses. Or sort by switch name/slot/port to understand where on the network devices are connected. Sort by discovered problems to quickly identify potential issues. Additional discovery-assisted analysis tools aid with troubleshooting and profile creation. For example, the Multiport Statistics tool provides visibility into switch, router and AP port statistics including speed, duplex, slot, port, VLANs, host count, utilization, discards and errors. The Path Analysis tool provides a layer 2 and 3 trace route from the OneTouch AT to a target device including time to each hop and SNMP switch and router port statistics.

Wi-Fi analysis

Automatically discover Wi-Fi devices and key device properties. Select from among eighteen context-relative sorts to obtain different views into the wireless network. For example, sort by signal strength to troubleshoot Wi-Fi coverage issues. Sort by MAC manufacturer to discover Wi-Fi devices by type and to understand how they are connected relative to SSID, AP and channel. Sort by channel to identify channel spacing problems. Sort by authorization status to find potential security violations. Additional discovery-assisted analysis tools aid with troubleshooting and security enforcement. If a Wi-Fi device is also discovered via Wired Analysis, a cross link feature enables one-button toggling between analysis views.

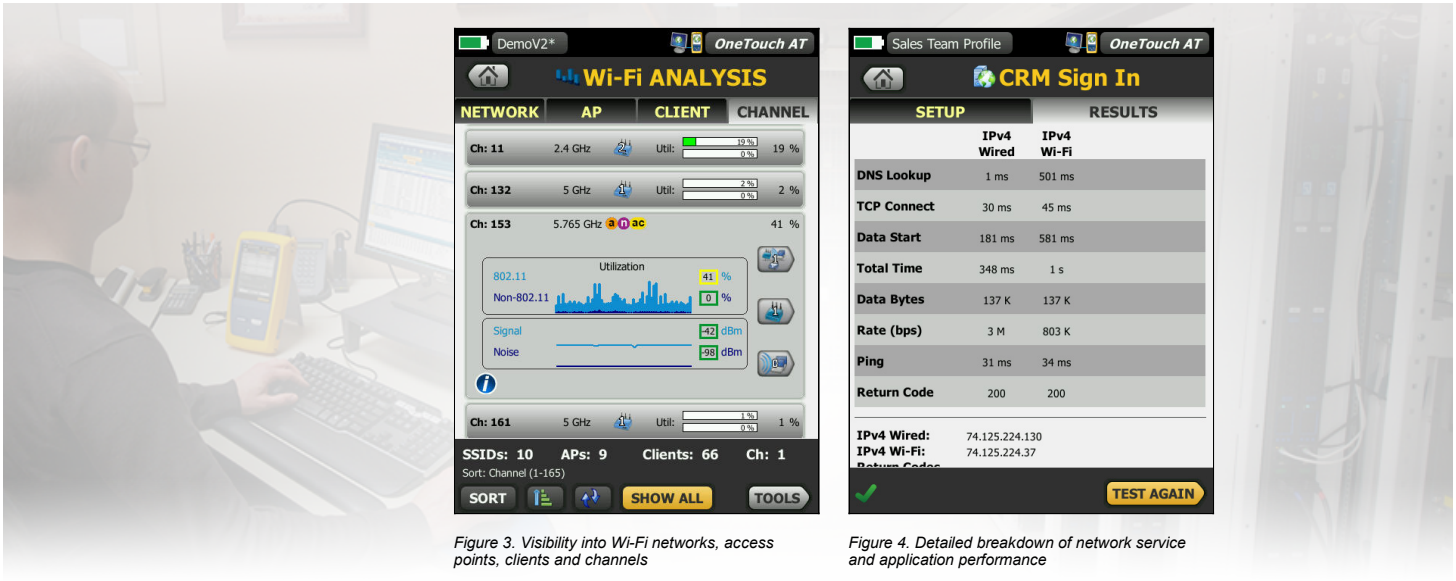

Figure 3. Visibility into Wi-Fi networks, access points, clients and channels

Figure 4. Detailed breakdown of network service and application performance

Network application testing

Determine if a server-based application is the root cause of a reported problem by measuring availability and responsiveness. Choose the performance test appropriate for the application: ping (ICMP), connect (TCP), web (HTTP), file (FTP), multicast (IGMP), video (RTSP) or email (SMTP). Touch the icon on the home page to get a detailed breakdown of application performance including DNS lookup time, server response time and data rate. The test results are presented side-by-side for easy wired/Wi-Fi and IPv4/IPv6 performance comparisons. A few examples: ping your WLAN controller, connect to port 2000 on your VoIP call manager, download a page of an application with a web interface, upload or download a file from a server, subscribe to a multicast group, access video content from an on-demand streaming video server or email a text message to your mobile phone.

Test local and cloud-based services

Understand the performance of network services and server-based applications hosted locally in the datacenter, on a corporate intranet server or on a server reached via the public internet. Organize the tests by location by placing the test icon within the appropriate tier on the OneTouch AT home page. Measure service levels to the different tiers to spot problems.

End-to-end path performance measurement

Ensure that newly installed or upgraded wired and Wi-Fi networks meet SLA objectives and are ready for new high-bandwidth applications by measuring end-to-end path performance. Measure throughput, frame loss, latency and jitter between a local OneTouch AT and a remote OneTouch AT peer or a remote LinkRunner reflector. A remote peer provides upstream and downstream results while a remote reflector yields round trip results. Measure performance at rates up to 1 Gbps on copper and fiber networks and 100 Mbps on Wi-Fi networks. A special use model exists that enables testing from the OneTouch AT wired interface to the Wi-Fi interface on the same instrument for testing without a remote.

Packet capture wired and Wi-Fi

Capture wired and Wi-Fi traffic when a packet-level view is required to solve a complex network or application issue. Filter the traffic to capture what is most important. Export the capture file to a PC for decoding and analysis using protocol analysis software. Capture wired traffic on a single port, on two ports aggregated, or inline between a client device and the network. Inline capture avoids the complexity, time and cost associated with standalone taps or configuring switch mirror ports. Capture Wi-Fi traffic by channel and mode (20 MHz or 40 MHz+).

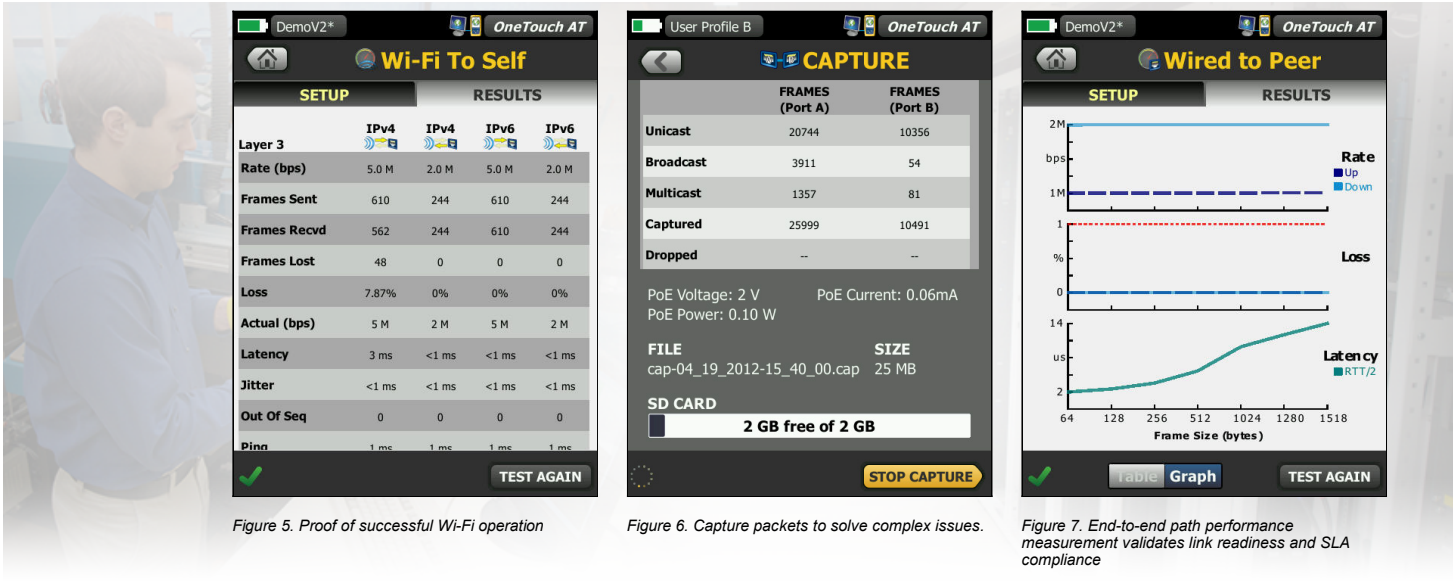

Figure 5. Proof of successful Wi-Fi operation

Figure 6. Capture packets to solve complex issues.

Figure 7. End-to-end path performance measurement validates link readiness and SLA compliance

Inline VoIP analysis

Connect inline between a VoIP phone and the network for real-time troubleshooting and analysis. The VoIP analysis test reveals issues related to PoE, DHCP, TFTP, SIP, and SCCP. The test provides visibility into unencrypted SIP and SCCP traffic to debug VoIP phone problems and quantify the quality of a VoIP call. Simultaneous capture of the VoIP conversation is optional.

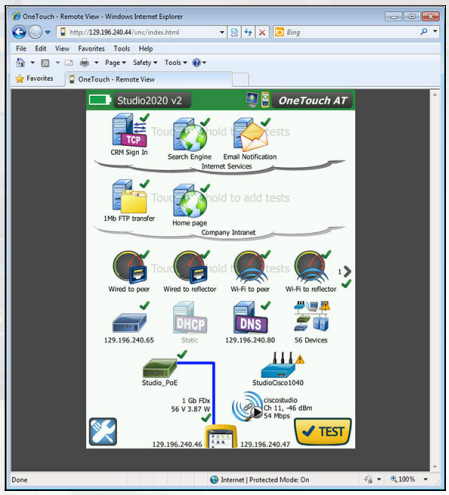

Figure 8. Use a web browser or VNC client to remotely control the OneTouch AT or download capture files and reports to your PC.

Figure 9. Inline VoIP analysis simplifies troubleshooting of desktop VoIP problems in real-time without TAPs or switch mirror ports

Streamline collaboration

Collaborate with peers, consultants, integrators and vendors more effectively by sharing packet captures, screen shots and AutoTest reports. Remotely control and view the user interface and remotely access files using a PC, tablet or smart phone. Attach a web cam to the OneTouch AT to share a view of the test environment.

Troubleshoot IPv6 networks

Easily compare and contrast IPv4 and IPv6 wired and wireless network performance by viewing test results side-by-side.

Save test results

Save the test results in a PDF report to share with colleagues or outside parties. A report serves as trouble ticket documentation, as a record of historical performance for benchmarking or as a certification report after new infrastructure deployment and turn up. Define which test results to include in the report: settings, AutoTest, wired analysis, Wi-Fi analysis or VoIP.

Purpose-built for field testing

The OneTouch AT is engineered specifically for network support professionals on the go. Useful test and management tools include a web browser, Telnet/SSH client, cable toner, webcam support and optional fiber optic connector inspection camera. The durable platform provides years of reliable operation in tough environments.

Versiv™ test platform

Expand testing capabilities by adding new modules to the Versiv platform as testing needs evolve. Available modules include DSX CableAnalyzer™, CertiFiber® Pro OLTS and OptiFiber® Pro OTDR.

Technical Specifications

General	
Dimensions (with module and battery installed)	10.3 in x 5.3 in x 2.9 in (26.2 cm x 13.5 cm x 7.3 cm)
Weight (with module and battery installed)	3.5 lb (1.6 kg)
Display	5.7 in (14.5 cm) LCD with projected capacitance touch screen, 480 x 640 pixels
AC adapter	Input: 100-240 Vac, 50-60 Hz, 1.0 A
	Output: +15 Vdc, 2.0 A
Battery type	Lithium ion battery pack, 7.2 V
Battery life	Approximately 3-4 hours depending on type of usage, 4 hours to charge from 10% capacity to 90% capacity with the unit powered off
Memory	Internal: 2 GB shared between system and user files
	SD card: 4 GB, brand and model selected for optimal performance
	USB 2.0 type A port: for use with USB mass storage devices
Network analysis ports	Two RJ-45 10/100/1000BASE-T Ethernet
	Two SFP 100BASE-FX/1000BASE-X Ethernet
Management port	One RJ-45 10/100BASE-T Ethernet
Wi-Fi adapter data rate	802.11a: 6/9/12/24/36/48/54 Mbps
	802.11b: 1/2/5.5/11 Mbps
	802.11g: 6/9/12/24/36/48/54 Mbps
	802.11n (20 MHz): MCS0-23, up to 216 Mbps
	802.11n (40 MHz): MCS0-23, up to 450 Mbps
Wi-Fi adapter operating frequency	2.412 ~ 2.484 GHz (Industrial Scientific Medical Band)
	5.170 ~ 5.825 GHz
Wi-Fi security	64/128-Bit WEP Key, WPA, WPA2, 802.1X

Environmental and Regulatory	
Operating temperature	32°F to 122°F (0°C to 50°C)
Battery charging temperature	32°F to 104°F (0°C to 40°C)
Storage temperature	-40°F to 160°F (-40°C to 71°C)
	-4°F to 122°F (-20°C to 50°C) for periods longer than 1 week
Operating relative humidity (% RH without condensation)	5% to 45% at 32°F to 122°F (0°C to 50°C)
	5% to 75% at 32°F to 104°F (0°C to 40°C)
	5% to 95% at 32°F to 86°F (0°C to 30°C)
Shock and vibration	Meets the requirements of MIL-PRF-28800F for Class 3 Equipment
Safety	CAN/CSA-C22.2 No. 61010-1-04, IEC 61010-1:2001
Operating altitude	13,123 ft (4,000 m), 10,500 ft (3,200 m) with AC adapter
Storage altitude	39,370 ft (12,000 m)
Pollution degree	2
EMC	EN 61326-1:2006

Certifications and Compliance	
CE	Conformite Europeene. Conforms to the requirements of the European Union and the European Free Trade Association (EFTA).
	Listed by the Canadian Standards Association.
N10140	Conforms to relevant Australian standards.

Ordering Guide

Model	Description
1T-1000	**OneTouch AT Network Assistant with the Copper/Fiber LAN option** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapter #1, RJ45 coupler, RJ45 patch cable, accessories pouch, carrying case, getting started guide, and resource CD with user manual.
1T-1500	**OneTouch AT Network Assistant with Copper/Fiber LAN, Capture and Advanced Tests options** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapters #1 - #6, RJ45 coupler, RJ45 patch cable, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, accessories pouch, carrying case, getting started guide, and resource CD with user manual.
1T-2000	**OneTouch AT Network Assistant with Copper/Fiber LAN and Wi-Fi options** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapter #1, RJ45 coupler, RJ45 patch cable, external directional antenna with mounting clip, accessories pouch, carrying case, getting started guide, and resource CD with user manual.
1T-3000	**OneTouch AT Network Assistant with Copper/Fiber LAN, Wi-Fi, Capture and Advanced Tests options** includes module and test frame, frame carry strap, AC adapter and line cord, wiremap adapters #1 - #6, RJ45 coupler, RJ45 patch cable, external directional antenna with mounting clip, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, accessories pouch, carrying case, getting started guide, and resource CD with user manual.
1T-1500-LRAT2	OneTouch AT 1T-1500, plus a LinkRunner AT 2000 tester.
1T-1500-2PK	Two complete OneTouch AT 1T-1500 kits.
1T-3000-FI	OneTouch AT 1T-3000, plus FI-1000 FiberInspector™ USB video probe with video probe tips.
1T-3000-CSA	OneTouch AT 1T-3000, plus ClearSight™ Analyzer Software on CD for decoding packet captures on a Microsoft Windows PC.
1T-3000-OFP-QUAD	OneTouch AT 1T-3000, plus OptiFiber Pro Quad OTDR module, four launch cables (50 um SC/LC, 50 um SC/SC, 9 um SC/LC, 9 um SC/SC), two IBC fiber cleaners (1.25 mm, 2.5 mm) and an accessories carrying case.
1T-3000-LRAT2KIT	OneTouch AT 1T-3000, plus LinkRunner™ AT 2000 Extended Test Kit.
1T-3000-ACK-LRAT2	OneTouch AT 1T-3000, plus Network Tech Troubleshooting Kit with an AirCheck™ Wi-Fi tester and a LinkRunner™ AT 2000 tester.
1T-WLAN-OPT	OneTouch AT Wi-Fi upgrade option includes external directional antenna with mounting clip, and option activation instructions (for 1T-1000 and 1T-1500 models).
1T-CAP-ADV-OPT	OneTouch AT capture and advanced tests upgrade option includes wiremap adapters #2 - #6, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, and option activation instructions (for 1T-1000 and 1T-2000 models).
1T-WLAN-CAPADV-OPT	OneTouch AT Wi-Fi, capture and advanced tests upgrade option includes external directional antenna with mounting clip, wiremap adapters #2 - #6, SD card, USB SD card reader, USB flash drive, two 1000BASE-SX SFP fiber transceivers, and option activation instructions (for 1T-1000 models).

Gold Support

Model	Description
1T-1000/GLD*	OneTouch AT 1T-1000, plus 1 year of Gold support
1T-1500/GLD*	OneTouch AT-1500, plus 1 year of Gold support
1T-2000/GLD*	OneTouch AT 1T-2000, plus 1 year of Gold support
1T-3000/GLD*	OneTouch AT 1T-3000, plus 1 year of Gold support
GLD-1T1000	1 year of Gold support for the 1T-1000 model
GLD-1T1500	1 year of Gold support for the 1T-1500 model
GLD-1T2000	1 year of Gold support for the 1T-2000 model
GLD-1T3000	1 year of Gold support for the 1T-3000 model
GLD3-1T1000	3 years of Gold support for the 1T-1000 model
GLD3-1T1500	3 years of Gold support for the 1T-1500 model
GLD3-1T2000	3 years of Gold support for the 1T-2000 model
GLD3-1T3000	3 years of Gold support for the 1T-3000 model

*Only for sale in the United States

Feature Summary	1T-1000	1T-1500	1T-2000	1T-3000
Wired (copper and fiber) testing and analysis	✓	✓	✓	✓
Basic service tests and testing tools	✓	✓	✓	✓
Inline wired VoIP analysis	✓	✓	✓	✓
Advanced tests: HTTP, FTP, IGMP, RTSP, SMTP, Performance		✓		✓
Wi-Fi testing and analysis			✓	✓
Packet capture: single port, dual port, inline, VoIP, AutoTest, Wi-Fi (1T-3000)		✓		✓

Visit **www.flukenetworks.com/OneTouchAT** for a complete listing of models, options and accessories

Fluke Networks operates in more than 50 countries worldwide.

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